

ABSTRACT

This study evaluated the larvicidal activity of essential oil of *Lippia kituiensis* leaves against larvae of *Rhipicephalus appendiculatus*. The oil was obtained by hydro-distillation of fresh leaves and analysed using Gas Chromatography-Mass Spectrometry (GC-MS). Analysis showed that sesquiterpenes were dominant (56.57%), followed by monoterpenes (36.36%), diterpenes (2.59%) and others (5.19%). Major sesquiterpenes were germacrene D, β -bourbonene, gamma cadinene and 2-isopropyl-5-methyl-9-methylene-bicyclo[4.4.0]dec-1-ene. Major monoterpenes were (1S, 4S)-(-)-camphor, trans-sabinene hydrate, gamma-terpinene, dl-limonene, alpha-terpinolene, l-Phellandrene, beta-Myrcene, sabinene, camphene, alpha-pinene, 4-terpineol, 4-methyl-1-(1-methylethyl)-3-cyclohexen-1-ol, 14.29 borneol (=endo-borneol), camphore, and neo-alloocimene. At 6, 12, 24, and 48 hrs after larval treatment, the oil showed activity against *R. appendiculatus* larvae with LC 50 in mg/ml of 3.26(3.14-3.38), 3.21(3.08-3.32), 3.15(3.03-3.26), 3.09(2.97-3.20) while LC 90 in mg/ml were 4.15 (3.95-4.45), 4.03 (3.85-4.30), 3.94 (3.77-4.19), 3.86 (3.69-4.09) respectively. Results of one way ANOVA (Analysis of Variance) showed there was no significant difference in activity of the oil against the larvae, between 6, 12, 24 and 48 hrs in all the concentrations used $P = 0.97$, 95% confidence. The findings indicated that essential oil of *L. kituiensis* possessed larvicidal properties and can be used to control tick larvae. Keywords : *Rhipicephalus appendiculatus*; essential oils; acaricidal activity, ticks.